



**Public Works Department
Office of the Director**

To: Mayor and Board of Commissioners

From: Tom Funcheon, Public Works Director 

Date: July 27, 2021

Subject: Stormwater Action Plan

This presentation is an update of our Stormwater Action Plan. Our Stormwater Engineer, Bryan Anderson from Burgess & Niple will be doing a PowerPoint presentation for you.

Prioritized Sidewalk List

Location	Ranking	Address	ADA Ramp(s)	Width (ft)	Length (ft)	Cost (\$30/lf)
1	20	416 N Disston, north to Pine	2	4	195	\$5,850
2	19	407 E Harrison - East to Levis (N side)	0	4	485	\$14,550
3	19	628 Pent, east to N Walton	1	4	125	\$3,750
4	19	809 E Pine, west to N Disston	2	4	310	\$9,300
5	18	E Morgan @ S Disston connect (N & S sides)	2	4	30	\$900
6	18	North Av, MLK south to 606 North Av.	1	4	100	\$3,000
7	18	608 North Av	1	4	60	\$1,800
8	18	616 North Av, south to Harrison	1	4	205	\$6,150
9	18	623 Locust	1	4	35	\$1,050
10	18	805 N Walton (Locust side)	1	4	130	\$3,900
11	18	810 N Walton (Locust side)	2	4	150	\$4,500
12	18	S. Disston Av, intersection of E. Curlew Pl (west & east side)	3	4	26	\$780
13	18	809 E. Pine, west to N Disston	2	4	310	\$9,300
14	17	East Pine St. between Hibiscus & Safford Ave, North Side	5	4	412	\$12,360
15	17	Cross St., S side, Roosevelt to Hope	2	4	225	\$6,750
16	17	551 E Orange	2	4	50	\$1,500
17	17	619 E Center, west to N Disston	1	4	400	\$12,000
18	16	510 Triplett ST. South to Pine St	1	4	115	\$3,450
19	16	515 Triplett St, South to E. Pine St.	0	4	186	\$5,580
20	15	1018 Anclote Dr.	0	4	105	\$3,150
21	14	Canal St - from Grand to Roosevelt	1	4	265	\$7,950
22	13	W. Spruce (N side) between Hope & Roosevelt	2	4	155	\$4,650
23	13	S. Disston Av, from Harrison to Meres (west side)	2	4	650	\$19,500
24	13	Peninsula Ave & Riverside Dr.	1	4	35	\$1,050
25	13	912 Riverside Dr. on Wideview Side	2	4	387	\$11,610
26	13	1002 Riverside Dr. sidewalk on Hamilton side	3	4	130	\$3,900
27	13	Anclote Dr. & Riverside Dr. N.E. Corner	2	4	205	\$6,150
28	13	1100 Riverside Dr. Both sides of lot	2	4	336	\$10,080
29	13	1037 Wideview Ave	1	4	290	\$8,700
30	13	1120 Riverside Dr.	1	4	211	\$6,330
31	13	1101 N. Florida Ave	0	4	80	\$2,400
32	13	1107 N. Florida Ave	0	4	45	\$1,350
33	13	1115 N. Florida Ave to 1119 N. Florida Ave	0	4	155	\$4,650
34	13	Riverview Dr. North to 1269 N. Florida Ave	1	4	1,735	\$52,050
35	13	916 Riverside Dr.1	1	4	82	\$2,460
36	12	Clarissa Ct ADA crossing @ Ironworks East Side	1	4	10	\$300
37	12	Clarissa Ct ADA crossing @ Ironworks West Side	1	4	10	\$300
38	12	Forbes Trc ADA Crossing @ Ironworks Ln. West Side	1	4	5	\$150
39	12	Forbes Trc ADA Crossing @ Ironworks Ln. East Side	1	4	10	\$300
40	9	615 N. Jasmine south to Melon (west side)	2	4	325	\$9,750
41	8	S. Disston Av from E. Curlew to Ivey Ln (west side & east connect)	2	4	155	\$4,650
42	8	507 Ivey Ln, east to S. Disston (north side)	1	4	166	\$4,980
43	8	506 Ivey Ln, east to S. Disston (south side)	1	4	166	\$4,980
44	7	Sandy Hollow Rd to Crescent Ct (south/east side) *6" Depth needed	0	4	90	\$2,700

Total Cost \$280,560



PUBLIC WORKS – STREETS SECTION
SIDEWALK CONSTRUCTION/REPLACEMENT EVALUATION FORM

Date: 6-8-21 Work Request # _____

Street: E. HARRISON ST.

From: 407 E. Harrison St. 1

To: EAST TO S. LEWIS ST.

Length: 485 Lf. Width: 4 Lf.

Runs East/West Runs North/South Other

Defects (Non Existing= 0)	Rating
Police Accident Report (Requiring Repair)	(0/10) _____
Citizen Accident Report (Requiring Repair)	(0/10) _____
Trip Hazard	0-10 _____
Cracks	0-10 _____
Dips/Raised	0-10 _____
Housing Density (Heavy = 5)	0-5 <u>4</u>
Pedestrian Traffic (Heavy = 5)	0-5 <u>5</u>
ADA Required	10 _____
Proximity to School (Elementary or Middle)	(0/5/10) <u>10</u>
- Main Corridor and/or less than 1 mile	= 10
- 1 to 2 mile radius	= 5
- More than 2 mile radius	= 0
TOTAL RATING	<u>19</u>

REVISED 8/18/20



PROJECT/PHASE IN-PROGRESS

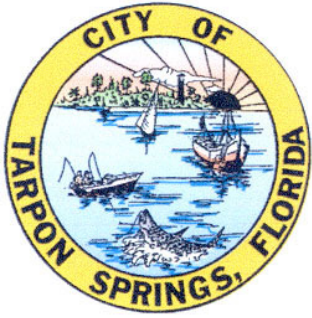
PROJECT IN-CONSTRUCTION

PROJECT/PHASE COMPLETED

City of Tarpon Springs - Stormwater Capital Improvement Program

Updated September 2020

Map ID No.	Project Location	Design Start Date	Land Purchase Date	Construction Start Date	Construction Finish Date
21 & 22	Palm Ave. between Tarpon Dr. & Gulf Rd. (Street and private property flooding)	COMPLETED	2018	2020	2020
42	Sponge Docks Flooding - Phase 1: Check Valves (Street and private property flooding)	COMPLETED	NOT REQUIRED	2020	2020
105	Chesapeake Dr. Tidal Valve (Tidal street and private property flooding)	COMPLETED	NOT REQUIRED	2020	2020
5	Pent St. 200' east of Grosse Ave. (Street and private property flooding)	COMPLETED	NOT REQUIRED	2020	2021
NA	City Golf Course (Phase 2) (Long duration flooding)	COMPLETED	NOT REQUIRED	2021	2021
109	Hibiscus Ave. & Pine St. (Street flooding)	COMPLETED	NOT REQUIRED	2021	2021
110	Pinellas Trail Culvert (Street and private property flooding)	2021	NOT REQUIRED	2022	2022
102	Mango St. & Mango Cl. (Street flooding)	COMPLETED	2019	2021	2022
104	Roosevelt Blvd. & Canal St. Tidal Valve (Tidal street flooding)	2021	NOT REQUIRED	2022	2023
111	Grandview Drive (Street and private property flooding)	2021	NOT REQUIRED	2022	2023
103	Roosevelt Blvd. & Island Dr. Tidal Valve (Tidal street flooding)	2023	NOT REQUIRED	2023	2023
106	Spring Dr. & MLK Jr. Dr. (Tidal street and private property flooding)	2022	NOT REQUIRED	2023	2024
108	Lakeview Dr. (Street and private property flooding)	2022	NOT REQUIRED	2023	2024
69	Pent St. 100' east of Levis (Street and private property flooding)	2023	NOT REQUIRED	2023	2024
107	Lime St. & Huey Ave. (Street and private property flooding)	2024	NOT REQUIRED	2024	2025
39	Coburn Dr. 100' west of Florida Ave. (Street and private property flooding)	2024	NOT REQUIRED	2025	2026
2	Disston Ave. & Center St. (Street and private property flooding)	2024	NOT REQUIRED	2024	2026
15 & 33	Highland Ave. & Vista Pl. (Street and private property flooding)	2025	NOT REQUIRED	2026	2027
9	Disston Ave. between Spruce St. & Live Oak St. (Street and private property flooding)	2026	NOT REQUIRED	2027	2029
57 & 74	Kenneth Way at Seaside Dr. (Street and private property flooding)	2027	2027	2029	2030
20 & 25	Levis Ave. Alleyway/Levis Ave. between Lime St. & Oakwood St. (Street and private property flooding)	2030	NOT REQUIRED	2030	2032
42	Sponge Docks Flooding - Phase 2: Pipe Upgrades & Stormwater Vault Pump Station (Street and private property flooding)	2030	NOT REQUIRED	2032	2033



PROJECT/PHASE IN-PROGRESS

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PROJECT/PHASE COMPLETED

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Updated June 2021

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City of Tarpon Springs Stormwater Program



- Staff of 9 (all certified and trained annually for illicit discharge)
- Maintains 32 major outfalls

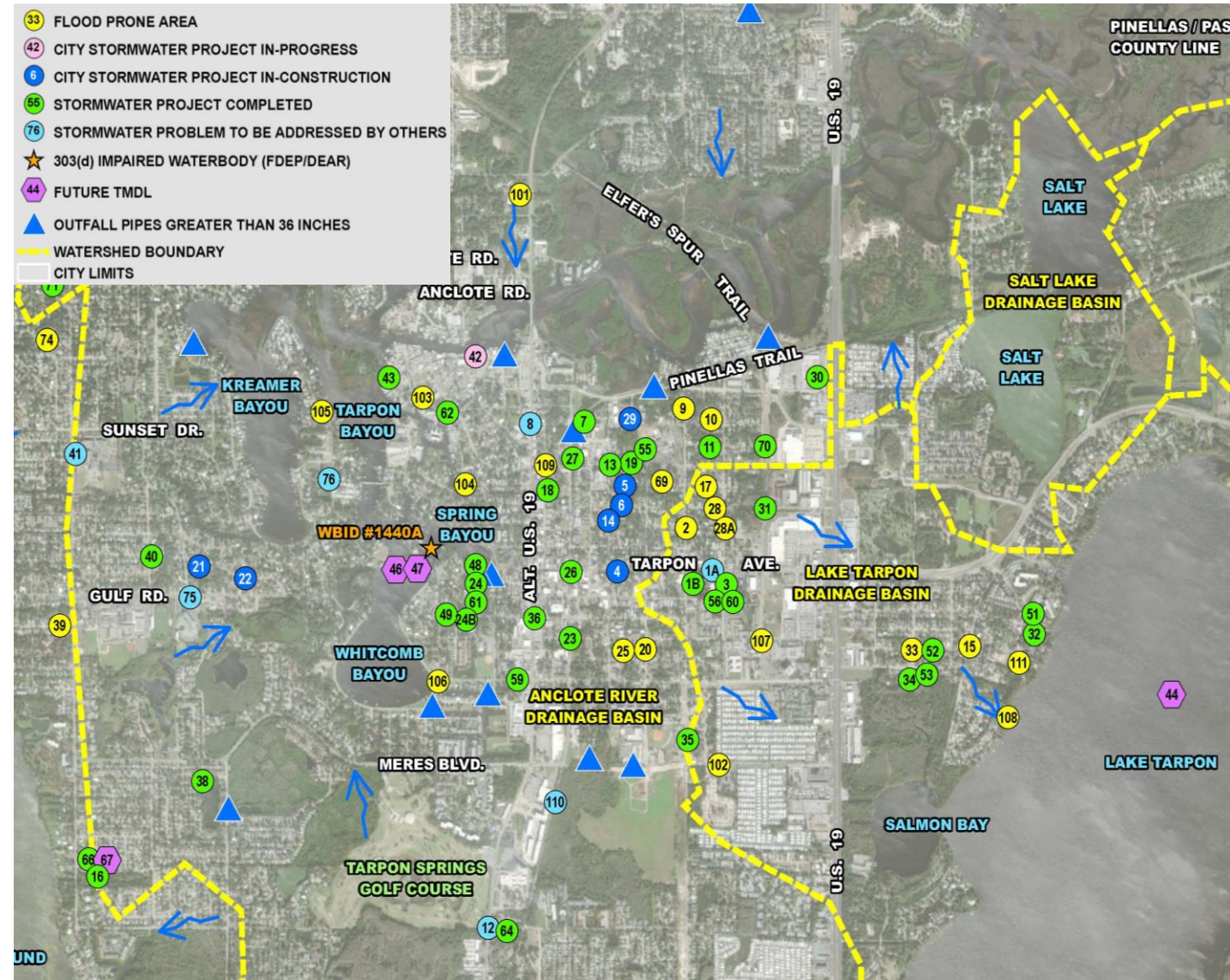
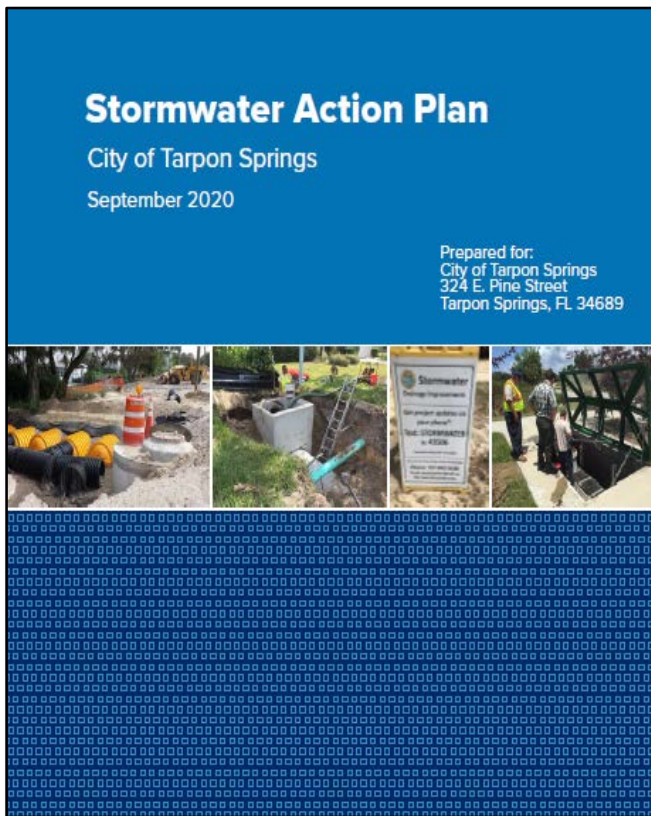
City of Tarpon Springs Stormwater Program Goals

- Goal 1: Mitigate the potential for flooding and improve water quality
 - Continue stormwater project capital improvement program
 - Continue an active maintenance program of stormwater facilities
 - Street sweeper program
 - Fertilizer Ordinance; includes retail sales and application restrictions
 - Monthly reviews and treatment of aquatic growth control
 - NPDES Permit Compliance with Pinellas County
- Noted improvements in water quality include:
 - Decreasing total phosphorus and total suspended solids
 - Anclote River
 - St. Joseph's Sound
 - Decreasing total nitrogen and increasing transmissivity in Lake Tarpon
- Goal 2: Inform the public of their part in protecting the stormwater system and surrounding waterbodies
 - Perform regular stormwater educational programs, events and/or activities



Stormwater Action Plan (SAP)

- Developed and maintained since 2010
- Living document (bi-annual updates)



Arc-GIS map of City's stormwater CIP

Stormwater Action Plan (SAP)



- Grading/scoring criteria
 - Traffic Safety
 - Emergency Access
 - Property Impacts
 - Environmental
 - Problem Documentation
 - Maintenance



CITY OF TARPON SPRINGS
STORMWATER ACTION PLAN (SAP)
STORMWATER FOCUS AREA SCORING CRITERIA

BURGESS & NIPLE
Engineers ■ Architects ■ Planners

<u>CONSULTANT GRADING CRITERIA</u>	<u>MAX POINTS</u>
TRAFFIC SAFETY	10
EMERGENCY ACCESS/ROUTE	10
PROPERTY IMPACTS	10
ENVIRONMENTAL	10
PROBLEM DOCUMENTATION	5
MAINTENANCE	5
CITY SCORE	<u>10</u>
TOTAL POSSIBLE POINTS	60

Traffic Safety

0-5 points for a problem that impedes standard traffic flow rates. These locations are more of a nuisance due to partial roadside flooding.
6-10 points for a problem that poses a threat to life, impedance to major arterial road or hurricane evacuation route, or flooding near electrical equipment.

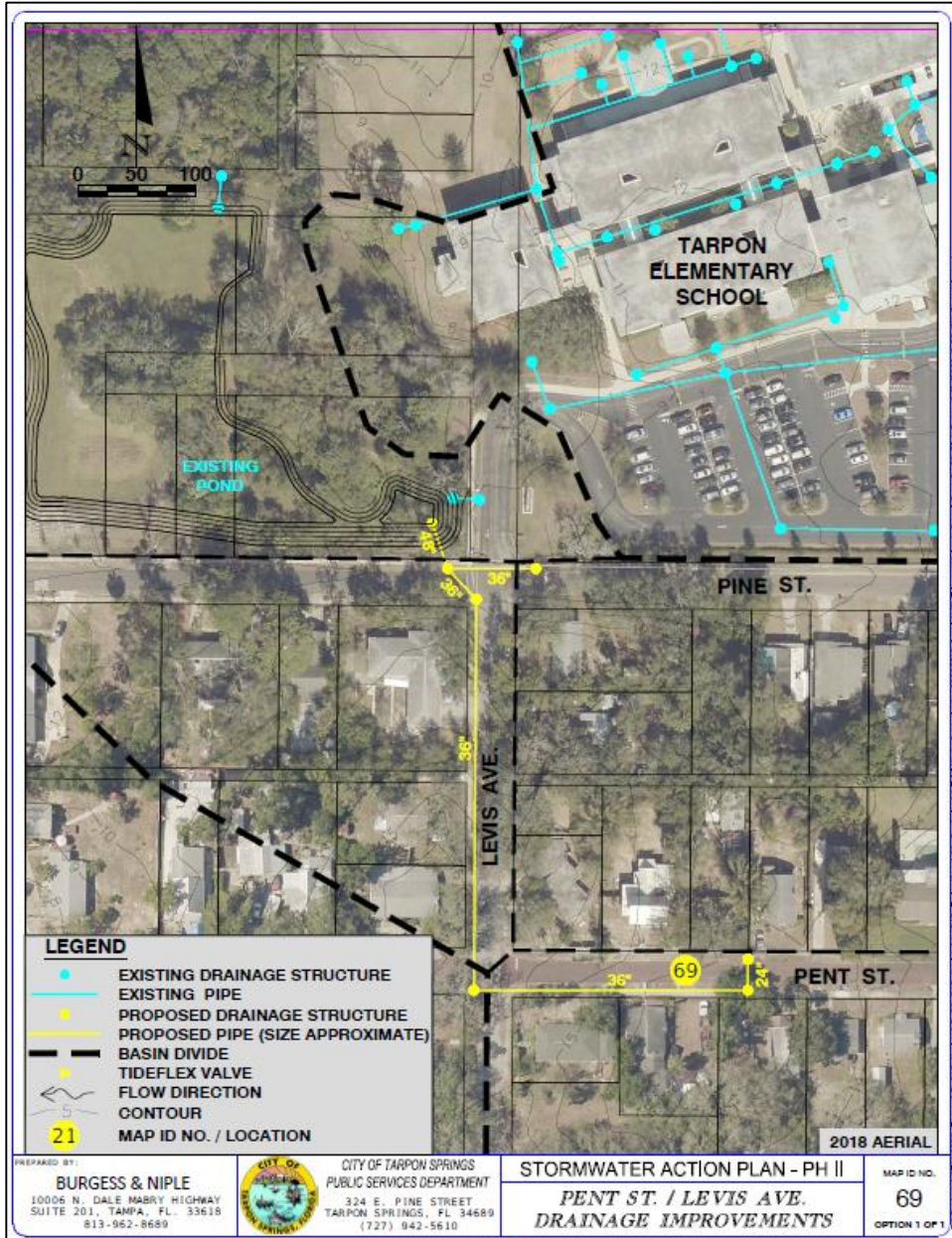
Emergency Access/Route

0-3 points for a problem that may cause an emergency vehicle some delay
4-7 point for a problem that may cause an emergency vehicle to change course while responding to an emergency.
8-10 points for a problem that impedes an evacuation route or route to emergency shelter.

Property Impacts

0-3 points for a problem that is primarily minor street and private property ponding.
4-7 points for a problem that impedes access to or from private property or causes flooding on more than one property; for a problem that occurs no more than 6 times a year and has a duration of less than 48 hours.
8-10 points for a problem that poses threat to flooding a structure or causing erosion threatening a structure; for a problem that occurs at least 6 times a year and has a duration of more than 48 hours.

Stormwater Action Plan (SAP)



Preliminary Construction Cost Estimate

MAP ID NO. 69: PENT ST. 100' EAST OF LEVIS AVE.

06/03/2020

Bid Item No.	Description	Quantity	Units	Unit Price	Amount
1	INLET PROTECTION SYSTEM	3	EA	\$114.00	\$342.00
2	STAKED SILT FENCE, TYPE III	700	LF	\$1.50	\$1,050.00
3	CLEARING & GRUBBING	0.250	AC	\$23,362.09	\$5,841.00
4	ROADWAY RECONSTRUCTION	550	SF	\$8.75	\$4,813.00
5	ROADWAY BRICK RECONSTRUCTION	280	SY	\$14.00	\$3,920.00
6	CURB INLET	6	EA	\$5,265.00	\$31,590.00
7	PIPE CULVERT REINFORCED CONCRETE, 0-24"	24	LF	\$111.00	\$2,664.00
8	PIPE CULVERT REINFORCED CONCRETE, 24"-36"	700	LF	\$153.87	\$107,709.00
9	PIPE CULVERT REINFORCED CONCRETE, 36"-48"	40	LF	\$196.19	\$7,848.00
10	CONCRTEE MES - 36"-48"	1	EA	\$7,200.00	\$7,200.00
11	SIDEWALK CONCRETE	310	SY	\$45.66	\$14,155.00
12	PERFORMANCE TURF, SOD	84	SY	\$3.13	\$263.00

CONSTRUCTION SUBTOTAL	\$187,395.00
MOBILIZATION	\$18,739.50
25% CONTINGENCY	\$46,800.00
CONSTRUCTION TOTAL	\$252,934.50
SURVEY	\$17,700.42
GEOTECHNICAL	\$5,100.00
ENGINEERING	\$43,213.21
GRAND TOTAL	\$318,948.13

Notes:

1. Unit Prices based on FDOT Item Average Unit Costs for Area 08 from 03/01/2019 to 02/29/2020.
2. Conceptual Cost Estimate does not include the costs of Right-of-Way Acquisition or Permitting.

- Conceptual Solutions
- Construction and Design Cost Estimates

Stormwater Action Plan (SAP)



- Cost/Benefit Analysis and ranking

$$\frac{\text{Conceptual Cost}}{\text{SAP Score}} = \text{Total Cost/SAP Point}$$

Table 3: Cost/Benefit Summary of Recommended Conceptual Solutions

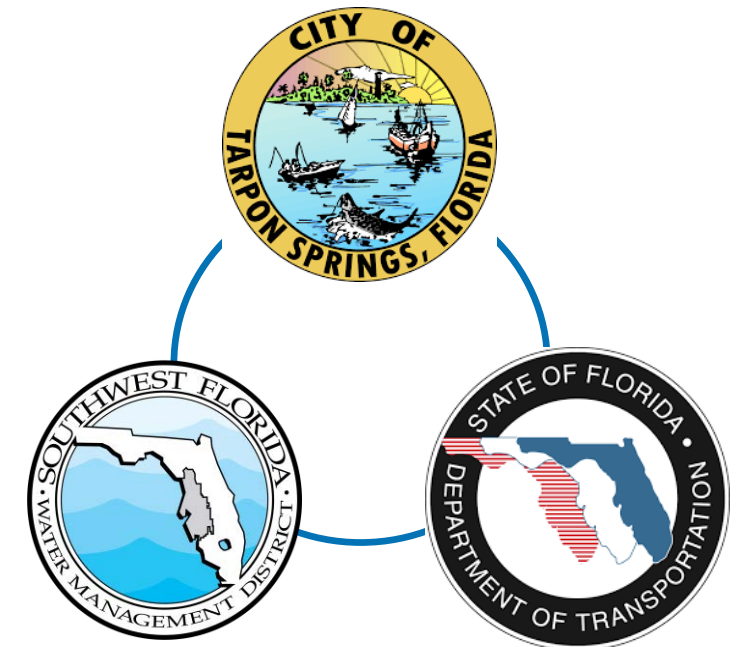
Project Ranking	Map ID No.	Option No.	Project Location	Resolved Map ID No.	Design & Construction Cost	ROW Acquisition Estimate	Total Cost	Total SAP Score	Total Cost/SAP Point	Level of Permitting
1	109	1	Hibiscus Ave. & Pine St.	109	\$100,000	NA	\$100,000	38	2,632	LOW
2	110	1	Pinellas Trail Culvert	110	\$109,314	NA	\$109,314	41	2,666	HIGH
3	104	1	Roosevelt Blvd. & Canal St.	104	\$208,954	NA	\$208,954	43	4,859	LOW
4	111	2	Grandview Drive	11	\$215,922	\$0	\$215,922	44	4,907	MEDIUM
5	106	1	Spring Dr. & MLK Jr. Dr.	106	\$365,561	NA	\$365,561	54	6,770	HIGH
6	108	1	Lakeview Dr.	108	\$259,142	NA	\$259,142	32	8,098	MEDIUM
7	69	1	Pent St. 100' east of Levis	69	\$318,948	NA	\$318,948	28	11,391	LOW
8	103	1	Roosevelt Blvd. & Island Dr.	103	\$182,585	NA	\$182,585	14	13,042	LOW
9	107	1	Lime St. & Huey Ave.	107	\$522,481	NA	\$522,481	40	13,062	MEDIUM
10	102	1	Mango St. & Mango Cl.	102	\$182,897	\$0	\$182,897	12	15,241	LOW

Stormwater Action Plan Success

- 32 completed projects totaling in \$5.5M in construction
- 5 successful grant applications through SWFWMD CFI and FDOT Highway Safety Improvement Program
 - Improving flood abatement and water quality
 - Totaling \$4,482,279 for design and construction

Summary of Successful Grant Applications

Project ID	Grant Funding Agency	Agency Project ID	Total Grant Funding to City
Pent Street / Grosse Avenue	SWFWMD	Q053	\$1,505,240
Palm Avenue	SWFWMD	N867	\$249,979
Highland / Jasmine	SWFWMD	N782	\$138,670
GIS Stormwater Inventory	SWFWMD	N923	\$100,000
Tarpon Avenue HSIP	FDOT / FHWA	443580-1	\$750,000
Dodecanese Blvd	FDEP	TBD	\$1,738,390
			\$4,482,279



- Active Sustainability Committee
- Developing Sustainability Action Plan
 - Increasing energy efficiency
 - Conserving water
 - Reducing waste
 - Protecting sensitive natural areas
 - Reducing Greenhouse Gas (GHG) emissions
 - Emphasis on green businesses and jobs
- Active FDEP Florida Resilient Coastlines Program (FRCP) Grant - \$75,000
- Future stormwater pump station for Sponge Docks (Dodecanese Blvd.)



- City has installed check valves within existing storm sewer systems to prevent tidally-influenced flooding at the following locations:
 - Dodecanese Blvd/Hope St
 - Dodecanese Blvd/Athens St
 - Dodecanese Blvd/Arfaras St
 - Bayshore Dr/Sunset Dr
 - Bayshore Dr
 - Chesapeake Dr
 - Spring Blvd

